

REMARKS/ARGUMENTS

Reconsideration of this application in light of the above amendments and following comments is courteously solicited.

Independent claim 7 has been amended so as to set forth a process for coating magnesium or magnesium alloys with a solution consisting essentially of vanadate ions, phosphate ions, fluoride ions and an active corrosion inhibitor. It is respectfully submitted that the amendment to claim 7 overcomes the examiner's rejections as set forth in her final rejection for the reasons set forth hereinbelow.

Previously submitted independent claim 7 was rejected under 35 U.S.C. 103 as being unpatentable over Bengston et al. in view of Tomlinson. As to how this rejection applies to claim 7 as amended it is respectfully traversed. Bengston teaches the use of vanadate combined with nitrate. Bengston does not teach the combination of vanadate and nitrate with the organo-phosphonic acid additives as claimed. In an effort to cure the deficiencies of the primary reference, the examiner looks to set the secondary reference to Tomlinson. Tomlinson teaches the deposition of Group IV base coatings with and without phosphate additives. Tomlinson does not teach the use of vanadate. The examiner concludes that it would be obvious to one of ordinary skill in the art from the teachings of Tomlinson to use NTMP in the system of Bengston. Applicants submit that the examiner's

position is in error and that it is not only nonobvious to do as the examiner proposes but the result would lead to a toxic and environmentally unfriendly result. Claim 7 has been amended to consisting essentially of language as, in the process of the present invention, our solution cannot contain nitrate because the addition of aminophosphoric acid to a solution which contained nitrate would lead to the formation of toxic nitrosamines. Thus, by adding NTMP to Bengston, one would create a significant environmental, health and safety hazard due to the formation of nitrosamines. Accordingly, the proposed combination of references would not be obvious. Thus, the examiner's rejection as it applies to amended independent claims 17 is untenable.

With regard to the second grounds of rejection as set forth on Page 5 paragraph 6 of the examiner's action, Applicants again respectfully submits that this rejection is improper and should be withdrawn as it applies to independent claim 7 as amended herein. Both the primary and secondary references applied by the examiner deal with aluminum coatings and not conversion coatings of magnesium. It would not be obvious to one of ordinary skill in the art to look to aluminum coatings for teachings of conversion coatings of magnesium. Aluminum and magnesium alloy systems are distinctly different in their response to fluoride additions and coating baths of the type

claimed in independent claim 7. Aluminum alloys are dissolved or "accelerated" by the presence of fluoride ion in the coating bath due to the high solubility of aluminum fluoride (CRC Handbook 66th ed.) Matshushima acknowledges fluoride as an "accelerator" in his comparative example C (5-65). Fluoride additions are not incorporated into aluminum alloy conversion coatings. Magnesium alloys are passivated by fluoride-containing solutions due to the insolubility of magnesium fluoride (CRC Handbook, 66th ed.). Fluoride ions from the coating bath are incorporated into magnesium conversion coatings as a key structural element by the bath described in our invention. Thus, it is respectfully submitted that the application of both Matshushima and Oppen et al. which deal with aluminum alloy systems is improper and belies the concept of a whole clause of 35 U.S.C. 103. Furthermore, the examiner applies these primary and secondary references with a tertiary reference to Tomlinson. It is submitted that there is absolutely no reason or motivation for combining the teachings of the Tomlinson patent with the primary and secondary references which deal with coating systems for aluminum. Tomlinson bath contains titanium, zirconium or hafnium. The Tomlinson bath does not use vanadate corrosion inhibitors. The only motivation for combining the Tomlinson reference with the aluminum coating systems of the primary and secondary references

is Applicant's own disclosure. Accordingly, it is submitted
that this rejection must fail under 35 U.S.C. 103.

In light of the foregoing, it is submitted that all of the
claims as pending patentably define over the art of record and
an early indication of same is respectfully requested.

An earnest and thorough attempt has been made by the
undersigned to resolve the outstanding issues in this case and
place same in condition for allowance. If the Examiner has any
questions or feels that a telephone or personal interview would
be helpful in resolving any outstanding issues which remain in
this application after consideration of this amendment, the
Examiner is courteously invited to telephone the undersigned and
the same would be gratefully appreciated.

It is submitted that the claims as amended herein
patentably define over the art relied on by the Examiner and
early allowance of same is courteously solicited.

If any additional fees are required in connection with this case, it is respectfully requested that they be charged to Deposit Account No. 21-0279.

Respectfully submitted,

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By 

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I, Rachel Piscitelli, hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313" on January 31, 2006.

